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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,139	09/23/2003	Jayanta Bhattacharyya	98-02c	7573
30699	7590	09/14/2004	EXAMINER	
DAYCO PRODUCTS, LLC 1 PRESTIGE PLACE MIAMISBURG, OH 45342			HON, SOW FUN	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/671,139	BHATTACHARYYA, JAYANTA	
	Examiner	Art Unit	
	Sow-Fun Hon	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-60 is/are pending in the application.
- 4a) Of the above claim(s) 43-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 28-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/23/03</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1772

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 28-42, drawn to an article, classified in class 428, subclass 36.92.
 - II. Claims 43-60, drawn to a method, classified in class 264, subclass 209.6.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the hose may be made by a process which comprises an extra step of using two temperature zones in the extruder, one at a temperature below the minimum crosslinking temperature, and one at or above the minimum crosslinking temperature.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Joe Tassone on July 23, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 28-42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 43-60 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1772

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 28-30, 33-34, 39-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,623,822. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of '822 recites a mixture containing the two components of the chlorinated polyolefin claimed by the present application. Independent claim 28 of the present application contains the term "comprising" which does not preclude the third component present in the chlorinated polyolefin mixture recited by claim 1 of '822.

Art Unit: 1772

8. Claims 28-42 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22, 24-25, 30-31, 33, 35, 40-52 of copending Application No. 10/262,813. Although the conflicting claims are not identical, they are not patentably distinct from each other because while '813 does not specifically claim a hose, it claims a thermoplastic vulcanizate for use in the manufacture of a hose. Hence the term "hose" is present in the claim, which would lead to the hose specifically claimed by the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 28-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how the thermoplastic polyurethane can be thermoplastic when it is crosslinked.

11. It is also unclear how claims 36-40 can claim two different chlorinated polyolefin mixtures. It is surmised that said claims should depend on claim 28 instead of claim 31. Correction and clarification are requested.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 28-30, 32-35, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogoe et al. (previously cited US 5,457,146) in view of Warren et al. (US 5,051,474), as evidenced by Reischl et al. (US 3,243,475).

Regarding claim 28, Ogoe teaches a composition comprising a thermoplastic polyurethane (column 3, lines 15-20), chlorinated polyethylene (column 8, lines 30-35) or chlorosulfonated polyethylene (column 9, lines 15-20), and a peroxide crosslinking agent (column 10, lines 40-45) which crosslinks the chlorinated (or chlorosulfonated) polyethylene (network structure) (column 10, lines 20-30). Hence the composition is a thermoplastic vulcanizate. The amount of polyurethane is preferably at least 30 parts and not more than about 85 parts (column 2, lines 5-10), which overlaps the claimed range of from 30 to 70-weight % (claim 31) and from 10 to 90-weight % (claim 20). The amount of chlorinated polyethylene is more preferably at least about 30 parts and not more than about 50 parts (column 2, lines 10-20), which overlaps the claimed range of from 30 to 70-weight %.

Ogoe teaches that the composition is useful in the production of molded articles of parts and components for use in the automotive industry (column 1, lines 45-55) and has a desirable balance of impact and heat resistance properties (column 1, lines 35-40). Therefore it would have been obvious to one of ordinary skill in the art to have made the thermoplastic vulcanizate

Art Unit: 1772

inherently capable of withstanding temperatures up to about 300 °F for the manufacture of a high performance hose. The thermoplastic vulcanizate is inherently capable of resisting chemical attack by virtue of its composition.

Regarding claim 42, Ogoe teaches a peroxide crosslinking agent (column 10, lines 40-45) and a diamine chain extender (column 5, lines 60-65). The diamine is a polyamine containing two functional groups. The diamine chain extender also functions as a crosslinking agent, as evidenced by Reischl.

Reischl teaches that polyamines function as a crosslinking agent or chain extender (column 2, lines 1-10).

Therefore it would have been obvious to one of ordinary skill in the art to have used a polyamine as a crosslinking agent in place of, or in tandem with, the peroxide crosslinking agent of Ogoe et al., in order to obtain a thermoplastic vulcanizate with different properties, due to the difference in crosslinked sites by virtue of the different crosslinking agent.

Ogoe fails to teach that the thermoplastic vulcanizate is made into a hose, that the chlorinated polyethylene and chlorosulfonated polyethylene are mixed together, or a mixture of any of the other claimed chlorinated polyolefins.

Regarding claims 28-29, 32-35, Warren has a composition comprising a thermoplastic polyurethane (column 3, lines 5-10) in an amount of about 20 to about 90 percent by weight (column 4, lines 20-25) which overlaps the claimed range of from about 30 to 70 weight percent, and a chlorine-containing polyolefin which can be a mixture of chlorinated polyethylene and chlorosulfonated polyethylene (claim 28), chlorinated polyethylene and chlorinated polypropylene (claim 29), chlorosulfonated polyethylene and chlorinated polypropylene (claim

Art Unit: 1772

32), chlorinated polyethylene and chlorinated copolymer of ethylene and propylene (claim 33), chlorinated polypropylene and chlorinated copolymer of ethylene and propylene (claim 34), chlorosulfonated polyethylene and chlorinated copolymer of ethylene and propylene (claim 35) (column 4, lines 45-60).

Warren teaches mixtures of these chlorine-containing polyolefins (column 4, lines 55-60) present in the amount of from about 0.2 to about 60 percent by weight (column 5, lines 1-10). The crosslinking agent used is a polyisocyanate (column 6, lines 25-35) which crosslinks the thermoplastic polyurethane in the thermoplastic vulcanizate.

Warren teaches that thermoplastic vulcanizates (elastomers) (column 1, lines 35-40) are used in hoses (column 2, line 6). Therefore it would have been obvious to one of ordinary skill in the art to have made a hose from the thermoplastic vulcanizate comprising mixtures of chlorine-containing polyolefins in a thermoplastic polyurethane matrix, as taught by Warren, in order to obtain a molded hose article with the desired balance of impact and heat resistance properties, as taught by Ogoe, inherently capable of withstanding temperatures up to about 300 °F.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Art Unit: 1772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sow-Fun Hon

